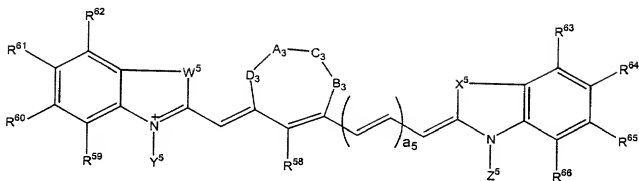


What is claimed is:

1. A method of determining a value of a function of a variable, the method comprising: receiving a value of the variable; and determining the value of the function of the variable based on the received value of the variable.

1. A compound of formula



wherein W^5 and X^5 are independently selected from the group

consisting of $-CR^1R^2$, $-O-$, $-NR^3$, $-S-$, and $-Se$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-$

5 Bm , $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Bm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-$

10 $(CH_2OCH_2)_d-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_d-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is

selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Dm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-$

15 Dm , $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-$

- $\text{CH}_2\text{-N(R}^3\text{)-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_d\text{-CONH-Dm}$, $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-N(R}^3\text{)-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_d\text{-NHCO-Dm}$, $\text{-(CH}_2\text{)}_a\text{-NR}^3\text{R}^4$, and $\text{-CH}_2\text{(CH}_2\text{OCH}_2\text{)}_b\text{-}$
- 20 $\text{CH}_2\text{NR}^3\text{R}^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are independently selected from the group consisting of -O-, -S-, -Se-, -P-, -CR¹R², -CR¹, alkyl, NR³, and -C=O; A_3 , B_3 , C_3 , and D_3 may together form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or
- 25 sulfur atom; a_5 vary from 0 to 5; R^1 to R^4 , and R^{55} to R^{66} are independently selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_{10}$ alkyl, $\text{C}_5\text{-C}_{20}$ aryl, $\text{C}_1\text{-C}_{10}$ alkoxy, $\text{C}_1\text{-C}_{10}$ polyalkoxyalkyl, $\text{C}_1\text{-C}_{20}$ polyhydroxyalkyl, $\text{C}_5\text{-C}_{20}$ polyhydroxyaryl, $\text{C}_1\text{-C}_{10}$ aminoalkyl, cyano, nitro, halogen, saccharide, peptide, $\text{-CH}_2\text{(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-OH}$, $\text{-(CH}_2\text{)}_a\text{-}$
- 30 CO_2H , $\text{-(CH}_2\text{)}_a\text{-CONH-Bm}$, $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-CONH-Bm}$, $\text{-(CH}_2\text{)}_a\text{-NHCO-Bm}$, $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-NHCO-Bm}$, $\text{-(CH}_2\text{)}_a\text{-OH}$ and $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CO}_2\text{H}$; Bm and Dm are independently selected from the group consisting of bioactive peptide, protein, cell, antibody, antibody fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic,
- 35 hormone, metal chelating agent, radioactive or nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 20; b and d independently vary from 1 to 100.
2. The compound of claim 1 wherein W^5 and X^5 are independently selected from the group consisting of $\text{-C(CH}_3\text{)}_2$, $\text{-C((CH}_2\text{)}_a\text{OH)CH}_3$,

$-\text{C}((\text{CH}_2)_a\text{OH})_2$, $-\text{C}((\text{CH}_2)_a\text{CO}_2\text{H})\text{CH}_3$, $-\text{C}((\text{CH}_2)_a\text{CO}_2\text{H})_2$,

$-\text{C}((\text{CH}_2)_a\text{NH}_2)\text{CH}_3$, $\text{C}((\text{CH}_2)_a\text{NH}_2)_2$, $\text{C}((\text{CH}_2)_a\text{NR}^3\text{R}^4)_2$, $-\text{NR}^3$, and $-\text{S}-$; Y^5

- 5 is selected from the group consisting of $-(\text{CH}_2)_a-\text{CONH-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH-Bm}$, $-(\text{CH}_2)_a-\text{NHCO-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{NHCO-Bm}$, $-(\text{CH}_2)_a-\text{NR}^3\text{R}^4$, and $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2\text{NR}^3\text{R}^4$; Z^5 is selected from the group consisting of $-(\text{CH}_2)_a-\text{CONH-Dm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH-Dm}$, $-(\text{CH}_2)_a-\text{NHCO-Dm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{NHCO-Dm}$, $-(\text{CH}_2)_a-\text{NR}^3\text{R}^4$, and $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2\text{NR}^3\text{R}^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are independently selected from the group consisting of $-\text{O}-$, $-\text{S}-$, NR^3 , $(\text{CH}_2)_a-\text{CR}^1\text{R}^2$, and $-\text{CR}^1$; A_3 , B_3 , C_3 , and D_3 may together form a 6- to 10-membered carbocyclic ring or a 6- to 10-membered heterocyclic ring optionally containing one or
- 15 more oxygen, nitrogen, or sulfur atom; a_5 vary from 0 to 3; R^1 to R^4 , and R^{58} to R^{66} are independently selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_{10}$ alkyl, $\text{C}_5\text{-C}_{12}$ aryl, $\text{C}_1\text{-C}_{10}$ alkoxyl, $\text{C}_1\text{-C}_{10}$ polyhydroxyalkyl, $\text{C}_6\text{-C}_{12}$ polyhydroxyaryl, $\text{C}_1\text{-C}_{10}$ aminoalkyl, mono- or oligosaccharide, peptide with 2 to 30 amino acid units,
- 20 $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{OH}$, $-(\text{CH}_2)_a-\text{CO}_2\text{H}$, $-(\text{CH}_2)_a-\text{CONH-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH-Bm}$, $-(\text{CH}_2)_a-\text{NHCO-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{NHCO-Bm}$, $-(\text{CH}_2)_a-\text{OH}$ and $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CO}_2\text{H}$; Bm and Dm are independently selected from the group consisting of bioactive peptide containing 2 to 30 amino acid units, antibody, mono- or
- 25 oligosaccharide, glycopeptide, metal chelating agent, radioactive or

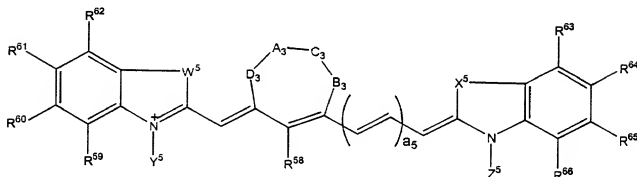
nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 10; b and d independently vary from 1 to 30.

3. The compound of claim 2 wherein each of W^5 and X^5 is $C((CH_2)OH)_2$; Y^5 is $-(CH_2)_2-CONH-Bm$; Z^5 is $-(CH_2)_2-CONH-Dm$; A_3 is a single bond; A_3 , B_3 , C_3 , and D_3 together form a 6-membered carbocyclic ring; a_5 is 1; R^{58} is galactose; each R^{59} to R^{66} is hydrogen;

5 Bm is Octreotate; Dm is bombesin (7-14).

4. A method for performing a diagnostic or therapeutic procedure comprising

administering to an individual an effective amount of the compound of formula



- 5 wherein W^5 and X^5 are independently selected from the group consisting of $-CR^1R^2$, $-O-$, $-NR^3$, $-S-$, and $-Se$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Bm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_a-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is
- 10 selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Dm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-Dm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-N(R^3)-CH_2-$

(CH₂OCH₂)_b-CH₂-NHCO-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-(CH₂)_a-CONH-
20 Dm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-(CH₂)_a-NHCO-Dm, -CH₂-(CH₂OCH₂)_b-
CH₂-N(R³)-CH₂-(CH₂OCH₂)_d-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-
CH₂-(CH₂OCH₂)_d-NHCO-Dm, -(CH₂)_a-NR³R⁴, and -CH₂(CH₂OCH₂)_b-
CH₂NR³R⁴; A₃ is a single or a double bond; B₃, C₃, and D₃ are
independently selected from the group consisting of -O-, -S-, -Se-, -P-,
25 -CR¹R², -CR¹, alkyl, NR³, and -C=O; A₃, B₃, C₃, and D₃ may together
form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered
heterocyclic ring optionally containing one or more oxygen, nitrogen, or
sulfur atom; a₅ vary from 0 to 5; R¹ to R⁴, and R⁵⁸ to R⁶⁶ are
independently selected from the group consisting of hydrogen, C₁-C₁₀
30 alkyl, C₅-C₂₀ aryl, C₁-C₁₀ alkoxy, C₁-C₁₀ polyalkoxyalkyl, C₁-C₂₀
polyhydroxyalkyl, C₅-C₂₀ polyhydroxyaryl, C₁-C₁₀ aminoalkyl, cyano,
nitro, halogen, saccharide, peptide, -CH₂(CH₂OCH₂)_b-CH₂-OH, -(CH₂)_a-
CO₂H, -(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-
NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-OH and -CH₂-
35 (CH₂OCH₂)_b-CO₂H; Bm and Dm are independently selected from the
group consisting of bioactive peptide, protein, cell, antibody, antibody
fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic,
hormone, metal chelating agent, radioactive or nonradioactive metal
complex, and echogenic agent; a and c independently vary from 1 to
40 20; b and d independently vary from 1 to 100, and a pharmaceutically
acceptable carrier or excipient to form a composition,

activating the compound using light, and
performing the diagnostic or therapeutic procedure.

5. The method of claim 4 comprising administering to an individual an effective amount of the compound wherein W^5 and X^5 are independently selected from the group consisting of $-C(CH_3)_2$, $-C((CH_2)_aOH)CH_3$, $-C((CH_2)_aOH)_2$, $-C((CH_2)_aCO_2H)CH_3$, $-C((CH_2)_aCO_2H)_2$, $-C((CH_2)_aNH_2)CH_3$, $C((CH_2)_aNH_2)_2$, $C((CH_2)_aNR^3R^4)_2$, $-NR^3$, and $-S$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are independently selected from the group consisting of $-O-$, $-S-$, NR^3 , $(CH_2)_a-CR^1R^2$, and $-CR^1$; A_3 , B_3 , C_3 , and D_3 may together form a 6- to 10-membered carbocyclic ring or a 6- to 10-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; a_5 vary from 0 to 3; R^1 to R^4 , and R^{5a} to R^{5b} are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_5 - C_{12} aryl, C_1 - C_{10} alkoxy, C_1 - C_{10} polyhydroxyalkyl, C_5 - C_{12} polyhydroxyaryl, C_1 - C_{10} aminoalkyl, mono- or oligosaccharide, peptide with 2 to 30 amino acid units,

$-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{OH}$, $-(\text{CH}_2)_a-\text{CO}_2\text{H}$, $-(\text{CH}_2)_a-\text{CONH-Bm}$, $-\text{CH}_2-$
 $(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{CONH-Bm}$, $-(\text{CH}_2)_a-\text{NHCO-Bm}$, $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-$
 NHCO-Bm , $-(\text{CH}_2)_a-\text{OH}$ and $-\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CO}_2\text{H}$; Bm and Dm are
independently selected from the group consisting of bioactive peptide

- 25 containing 2 to 30 amino acid units, antibody, mono- or
oligosaccharide, glycopeptide, metal chelating agent, radioactive or
nonradioactive metal complex, and echogenic agent; a and c
independently vary from 1 to 10; b and d independently vary from 1 to
30.

6. The method of claim 5 comprising administering to an individual
an effective amount of the compound wherein each W^5 and X^5 is
 $\text{C}((\text{CH}_2)\text{OH})_2$; Y^5 is $-(\text{CH}_2)_2-\text{CONH-Bm}$; Z^5 is $-(\text{CH}_2)_2-\text{CONH-Dm}$; A_3 is a
single bond; A_3 , B_3 , C_3 , and D_3 together form a 6-membered

- 5 carbocyclic ring; a_5 is 1; R^{58} is galactose; each R^{59} to R^{66} is hydrogen;
Bm is Octreotate; Dm is bombesin (7-14).

7. The method of claim 4 wherein said procedure uses light of
wavelength in the region of 350-1300 nm.

8. The method of claim 4 wherein the diagnostic procedure is
optical tomography.

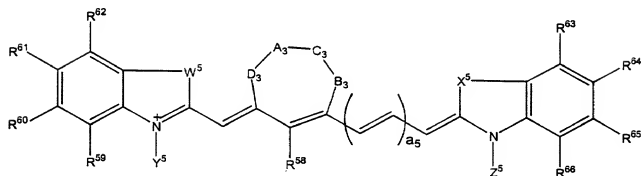
9. The method of claim 4 wherein the diagnostic procedure is fluorescence endoscopy.
10. The method of claim 4 further comprising monitoring a blood clearance profile of said compound by fluorescence, absorbance or light scattering wherein light of wavelength in the region of 350-1300 nm is used.
11. The method of claim 4 wherein said procedure further comprises a step of imaging and therapy wherein said imaging and therapy is selected from the group consisting of absorption, light scattering, photoacoustic and sonofluorescence technique.
12. The method of claim 4 wherein said procedure is for diagnosing atherosclerotic plaques and blood clots.
13. The method of claim 4 wherein said procedure comprises administering localized therapy.
14. The method of claim 4 wherein said therapeutic procedure comprises photodynamic therapy.

15. The method of claim 4 wherein said therapeutic procedure comprises laser assisted guided surgery for the detection of micrometastases.

16. The method of claim 4 further comprising adding a biocompatible organic solvent to the at a concentration of one to fifty percent to the composition to prevent *in vivo* or *in vitro* fluorescence quenching.

17. The method of claim 16 wherein said compound is dissolved in a medium comprising one to fifty percent dimethyl sulfoxide.

18. A composition comprising a cyanine dye bioconjugate of formula



wherein W^5 and X^5 are independently selected from the group

consisting of $-CR^1R^2$, $-O-$, $-NR^3$, $-S-$, and $-Se$; Y^5 is selected from the

group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-$

- 5 Bm , $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Bm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-$

- 10 $(CH_2OCH_2)_d-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_d-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is

selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-$

$(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-N(R^3)-(CH_2)_b-CONH-Dm$, $(CH_2)_a-N(R^3)-(CH_2)_c-NHCO-$

- 15 Dm , $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-$

$\text{CH}_2\text{-N(R}^3\text{)-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_d\text{-CONH-Dm, -CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-N(R}^3\text{)-}$

$\text{CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_d\text{-NHCO-Dm, -(CH}_2\text{)}_a\text{-NR}^3\text{R}^4\text{, and -CH}_2\text{(CH}_2\text{OCH}_2\text{)}_b\text{-}$

- 20 $\text{CH}_2\text{NR}^3\text{R}^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are independently selected from the group consisting of -O-, -S-, -Se-, -P-, -CR¹R², -CR¹, alkyl, NR³, and -C=O; A_3 , B_3 , C_3 , and D_3 may together form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or
- 25 sulfur atom; a_5 vary from 0 to 5; R^1 to R^4 , and R^{58} to R^{66} are independently selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_{10}$ alkyl, $\text{C}_5\text{-C}_{20}$ aryl, $\text{C}_1\text{-C}_{10}$ alkoxyl, $\text{C}_1\text{-C}_{10}$ polyalkoxyalkyl, $\text{C}_1\text{-C}_{20}$ polyhydroxyalkyl, $\text{C}_5\text{-C}_{20}$ polyhydroxyaryl, $\text{C}_1\text{-C}_{10}$ aminoalkyl, cyano, nitro, halogen, saccharide, peptide, $\text{-CH}_2\text{(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-OH}$, $\text{-(CH}_2\text{)}_a\text{-}$
- 30 CO_2H , $\text{-(CH}_2\text{)}_a\text{-CONH-Bm}$, $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-CONH-Bm}$, $\text{-(CH}_2\text{)}_a\text{-NHCO-Bm}$, $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CH}_2\text{-NHCO-Bm}$, $\text{-(CH}_2\text{)}_a\text{-OH}$ and $\text{-CH}_2\text{-(CH}_2\text{OCH}_2\text{)}_b\text{-CO}_2\text{H}$; Bm and Dm are independently selected from the group consisting of bioactive peptide, protein, cell, antibody, antibody fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic,
- 35 hormone, metal chelating agent, radioactive or nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 20; b and d independently vary from 1 to 100, and a pharmaceutically acceptable carrier or excipient.

19. The composition of claim 18 wherein W^5 and X^5 are independently selected from the group consisting of $-C(CH_3)_2-$, $-C((CH_2)_aOH)CH_3$, $-C((CH_2)_aOH)_2$, $-C((CH_2)_aCO_2H)CH_3$, $-C((CH_2)_aCO_2H)_2$, $-C((CH_2)_aNH_2)CH_3$, $-C((CH_2)_aNH_2)_2$, $-C((CH_2)_aNR^3R^4)_2$, $-NR^3$, and $-S-$; Y^5 is selected from the group consisting of $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; Z^5 is selected from the group consisting of $-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Dm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2NR^3R^4$; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are independently selected from the group consisting of $-O-$, $-S-$, NR^3 , $(CH_2)_a-CR^1R^2$, and $-CR^1$; A_3 , B_3 , C_3 , and D_3 may together form a 6- to 10-membered carbocyclic ring or a 6- to 10-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; a_5 vary from 0 to 3; R^1 to R^4 , and R^{56} to R^{66} are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_5 - C_{12} aryl, C_1 - C_{10} alkoxy, C_1 - C_{10} polyhydroxyalkyl, C_5 - C_{12} polyhydroxyaryl, C_1 - C_{10} aminoalkyl, mono- or oligosaccharide, peptide with 2 to 30 amino acid units,
- 20 $-CH_2(CH_2OCH_2)_b-CH_2-OH$, $-(CH_2)_a-CO_2H$, $-(CH_2)_a-CONH-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Bm$, $-(CH_2)_a-NHCO-Bm$, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-OH$ and $-CH_2-(CH_2OCH_2)_b-CO_2H$; Bm and Dm are independently selected from the group consisting of bioactive peptide

containing 2 to 30 amino acid units, antibody, mono- or
25 oligosaccharide, glycopeptide, metal chelating agent, radioactive or
nonradioactive metal complex, and echogenic agent; a and c
independently vary from 1 to 10; b and d independently vary from 1 to
30.

20. The composition of claim 19 wherein each of W^5 and X^5 is
 $C((CH_2)OH)_2$; Y^5 is $-(CH_2)_2-CONH-Bm$; Z^5 is $-(CH_2)_2-CONH-Dm$; A_3 is a
single bond; A_3 , B_3 , C_3 , and D_3 together form a 6-membered
carbocyclic ring; a_5 is 1; R^{58} is galactose; each R^{59} to R^{66} is hydrogen;
5 Bm is Octreotate; Dm is bombesin (7-14).